

POLARIZATION-INSENSITIVE INTEGRATED WAVELENGTH CONVERTER

ABSTRACT OF THE DISCLOSURE

A polarization-insensitive integrated wavelength converter system includes polarization-separating, polarization-rotating and wavelength-converter structures integrated into a monolithic optical structure. In one embodiment, a lithium niobate waveguide structure includes an integrated polarization separator which comprises two coupled Zinc-diffused and annealed-proton-exchanged waveguides, an electro-optic quarter-wave retarder, a mirror structure and a quasi-phasematching structure. In another embodiment, an electro-optic half-wave retarder and bent waveguide are used in place of the electro-optic quarter-wave retarder and mirror structure. In a further embodiment, an optical circulator is used in conjunction with the waveguide structure in order to discriminate between input and output optical signals.

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